

Varian, Inc.
Vacuum Technologies

NEW
High Performance
Mini-TASK AG81



Inspiring Excellence

NOTICE: This document contains references to Varian. Please note that Varian, Inc. is now part of Agilent Technologies. For more information, go to www.agilent.com/chem.



Agilent Technologies

NEW High Performance Mini-TASK AG81

Compact,
Portable Vacuum
System: Just Plug
and Pump

The NEW Mini-TASK AG81 (Active Gauge) is a portable, fully-integrated pumping system powered by the Varian Turbo-V 81 MacroTorr® turbomolecular pump backed by a 10 l/min diaphragm pump



Turbo-V 81-M: improved vacuum performance

The Turbo-V 81-M is a high performance turbo-drag pump with improved mechanical design aimed at:

- Higher foreline pressure tolerance
- Higher pumping speed and throughput
- Excellent compression ratio

Unique Varian Turbo Pump Technology

- No maintenance required: Varian Turbo Pumps don't need oil refills
- Operability in any position
- Low Power Requirement (optimized by new generation controller)

Reading Card and new Generation Controller

- Large Pressure Reading Display
- 90-240V, 50/60 Hz
- I/O and serial interface
- T-Plus Navigator Software allows communication with your PC

Active Gauge Capability

- The new generation electronics allows full control of the Varian Mini-IMG high vacuum gauge
- The Mini-IMG (based on the inverted magnetron ion gauge technology) has an operation range from 1.3×10^{-3} mbar (1×10^{-3} Torr) to 2.6×10^{-9} mbar (2×10^{-9} Torr)
- Operating temperature tolerance from 0°C to 50°C (32° - 122° F)
- Pressure data available on three independent channels:
 - On-board display in Torr, Pascal and mbar options
 - Serial communication
 - Analog output
- Pressure gauge can be connected/disconnected from the Mini-TASK AG81 during normal operation

World-wide Service and Support

- Global network of professional sales and application engineers
- Toll free telephone lines with native language representatives
- Technical/Application/Order Processing/Engineering Support
- Worldwide Repair, Advance Exchange and Upgrade programs available

Features and Benefits

Features

- New Generation Turbomolecular Pump Turbo-V 81-M
- Compact, Light, Dry, Clean and Robust System
- Universal voltage (90V/240V) - CE/CSA certified
- RS-232 or Analogical Communication
- High vacuum gauge driving card
- Large pressure data display
- Pressure driven set point, Analog set point



Benefits

- Designed for demanding applications
- Cost-effective pumping solution for small volumes
- Can be used world-wide
- Easy to use: plug and play system
- Compatible with world-wide power configurations
- Complies with world-wide safety standards
- Easy system pressure measurement



Mini-IMG Active Gauge

Active Inverted Magnetron Transducer

1×10^{-3} Torr to 2×10^{-9} Torr

1.3×10^{-3} mbar to 2.6×10^{-9} mbar

- Compact, stand-alone transducer
- Simple, rugged electronic with metal enclosure
- LED status indicator
- CSA/UL and CE certified

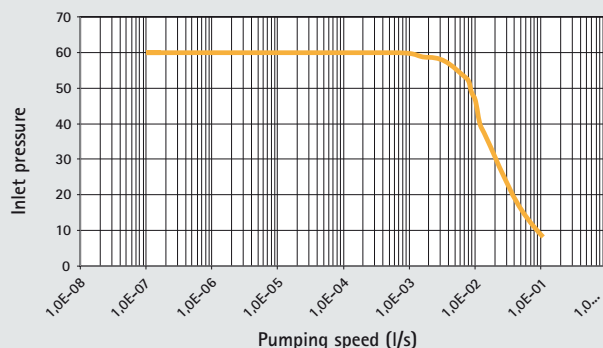
Mini-IMG Active Gauge Kit

This accessory can be ordered separately, and includes:

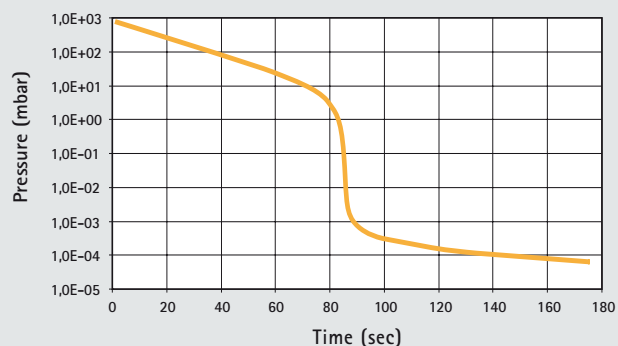
- Mini-IMG Active Gauge
- Cable for gauge connection,
- Vacuum Tee and Connecting Hardware
(Flanges according to the System inlet flange)

Technical Specifications and Ordering Information

PUMPING SPEED VS INLET PRESSURE



PRESSURE VS TIME (with a pump down vol. of 1 lt.)



TECHNICAL SPECIFICATIONS

		KF40	ISO63	CFF 4.5 in.
Pumping Speed (l/s)	N2	40	60	60
	H2	36	40	40
	He	45	55	55
Base pressure		2×10^{-7} mbar	2×10^{-7} mbar	5×10^{-8} mbar*
Bakeout temperature		80 °C at inlet	80 °C at inlet	120 °C at inlet
Shipping Weight lbs. (kg)		16.4 (7.5)	16.4 (7.5)	18.3 (8.3)
Pumpdown time (1 liter volume)		60 sec. to 24 mbar; 120 sec. to 1×10^{-4} mbar; 160 sec. to 7×10^{-5} mbar		
Turbo pump rotational speed		80,000 rpm		
Start-up time		Less than 2 minutes		
Operating position		Any		
Operating ambient temperature		5 °C to 35 °C / 32 °F to 122 °F		
Input Voltage and Frequency		90V to 240V AC; 50 Hz / 60 Hz		
Maximum input power		220 VA		
Serial communications		RS-232 cable, 9-pin D-type male, 9-pin D-type female, T-Plus Navigator Software		

***NOTE:** According to standard DIN 28 428, the base pressure is that measured in a leak-free test dome, 48 hours after the completion of test dome bake-out, with a Turbopump fitted with a ConFlat Flange

ORDERING INFORMATION

	KF40	ISO63	CFF 4.5in
Mini-TASK AG81	9699180	9699181	9699182
Gauge Kit	9699185	9699186	9699187
EU plug power cable, 2 meters (1 ph)	9699396	9699396	9699396
USA plug power cable 2 meters (1 ph)	9699397	9699397	9699397
UK plug power cable 2 meters (1 ph)	9699398	9699398	9699398
Serial Cable and T-Plus Navigator Software	9699883	9699883	9699883

Applications



Courtesy: BASF

Electron Microscopy and Mass Spectrometry

The new Mini-TASK AG81 Integrated Turbo Pumping System is the perfect tool to keep the column of an electron microscope under vacuum while performing maintenance or repair on the device. The oil-free nature of the system guarantees freedom from contamination of the column.



Courtesy: SLAC / Peter Ginter

High Energy Physics and Research Centers

This new Turbo Pumping System may be used in any laboratory where there is a need to create high vacuum in small-volume chambers quickly and easily. It performs best when evacuating volumes of 10 liters or less. The new generation electronics and the pressure display ensure the accuracy of the process.



Courtesy: OVONICS

Semiconductor Manufacturing

The Mini-TASK AG81 is particularly well suited for evacuating load-lock chambers. Its oil-free design ensures the purity of the process. The Mini-TASK AG81 may be mounted in any position, making it suitable for most system configurations.

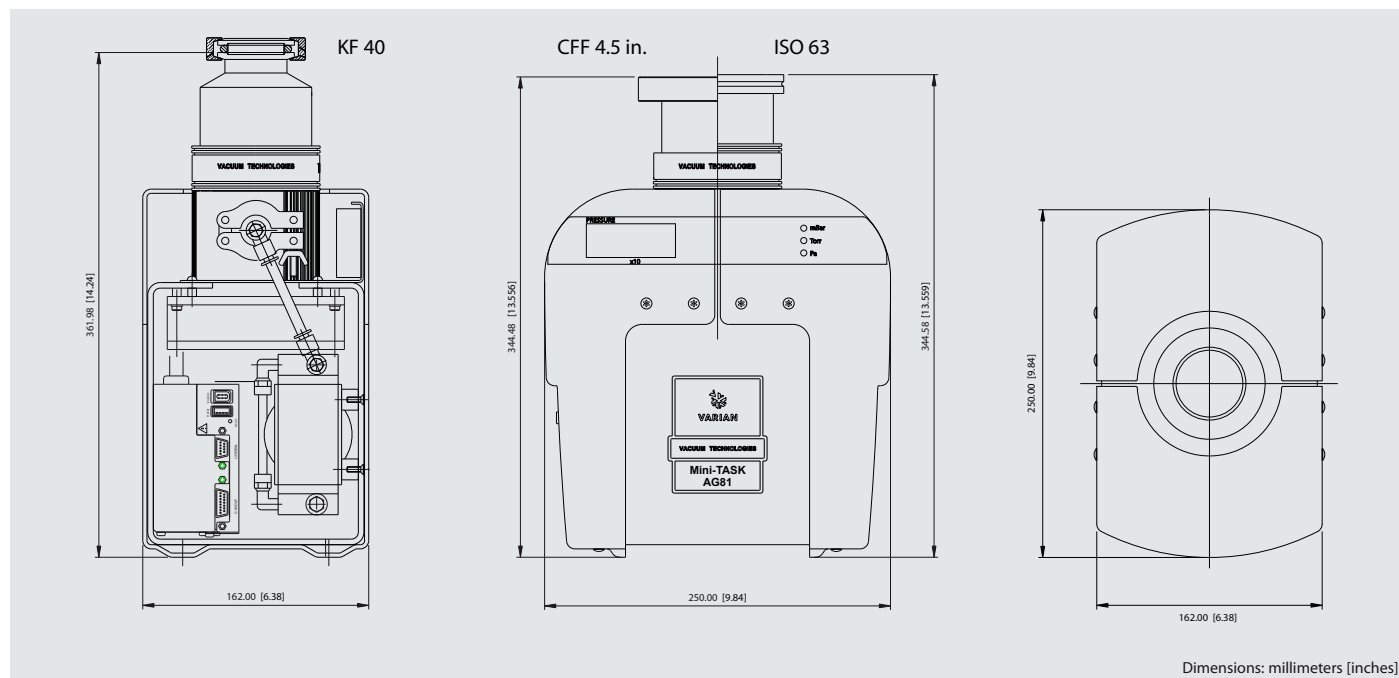


Courtesy: AXTRON

Industrial Applications

The Mini-TASK AG81 Turbo Pumping System can create and maintain the required vacuum level in separate chamber of an industrial system during maintenance or repair.

Outline Drawing



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